

# Claims

1. Method for recording/storing independent and/or simultaneous transport streams of data,  
being switchable to at least a first or recording mode,  
said recording mode comprising at least the steps of:
  - a) receiving at least a first transport stream (TS1, TS2, ..., TSn) of data (D1, D2, ..., Dn) to be recorded/stored,
  - b) dividing each of said transport streams (TS1, TS2, ..., TSn) into series of packets (P1, P2, ..., Pn) with respect to a predefined clock and/or to the temporal relationships of said transport streams (TS1, TS2, ..., TSn),
  - c) assigning to each of said transport streams (TS1, TS2, ..., TSn)/series of packets (P1, P2, ..., Pn) a recording header (H1, H2, ..., Hn),
  - d) generating a series of partial transport streams (ptlTS1, ptlTS2, ...) from at least said series of recording headers (H1, H2, ..., Hn) and said series of packets (P1, P2, ..., Pn) and
  - e) recording/storing a combined transport stream (CTS) as a time series of said partial transport streams (ptlTS1, ptlTS2, ...) based on said clock.
2. Method according to claim 1, **characterized in** that said transport streams (TS1, TS2, ..., TSn) of data (D1, D2, ..., Dn) are received from a common digital bus system, in particular of an i.LINK/IEEE 1394-based network bus and/or interface.
3. Method according to ~~any of the preceding claims~~, **characterized in** that a clock cycle of constant frequency is used for dividing said transport streams (TS1, TS2, ..., TSn).
4. Method according to ~~any of the claims 2 or 3~~, **characterized in** that a bus cycle is used as a clock cycle.
5. Method according to ~~any of the preceding claims~~, **characterized in** that each of said partial transport streams (ptlTS1, ptlTS2, ...) is generated with a heading cycle start indicating section (CSI) for indicating the beginning of a new clock cycle and therefore the beginning of a new recorded/stored partial transport stream (ptlTS1, ptlTS2, ...).

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Claim 1

Claim 2

Claim 3

- a*
- 1 **6.** Method according to ~~any of the preceding claims~~ <sup>Claim 1</sup>, **characterized in** that  
said transport streams (TS1, TS2, ..., TSn) are received by multiplexing  
said transport streams (TS1, TS2, ..., TSn), in particular from isochronous  
channels of said common digital bus system.
- 5 **7.** Method according to claim 6, **characterized in** that  
said recording headers (H1, H2, ..., Hn) and/or said temporal relation-  
ships of said transport streams (TS1, TS2, ..., TSn) are received and/or gener-  
ated at least from the temporal relationships of said multiplexing step and/or  
10 of said isochronous channels.
- a*
- 15 **8.** Method according to ~~any of the preceding claims~~ <sup>Claim 1</sup>, **characterized in** that  
each packet of each of said series of packets (P1, P2, ..., Pn) is paired  
and/or concatenated each at a time with said respective recording header (H1,  
H2, ..., Hn) within each partial transport stream (ptlTS1, ptlTS2, ...), in par-  
ticular with the recording headers (H1, H2, ...) preceding the respective packet.
- a*
- 20 **9.** Method according to ~~any of the preceding claims~~ <sup>Claim 1</sup>, **characterized in** that  
the received transport streams (TS1, TS2, ..., TSn) or at least parts  
thereof are stored in buffer storage means in advance of and/or during gener-  
ating said partial transport streams (ptlTS1, ptlTS2, ...).
- a*
- 25 **10.** Method according to ~~any of the preceding claims~~ <sup>Claim 1</sup>, **characterized in** that  
video and/or audio data are received at least in part within said trans-  
port streams (TS1, TS2, ..., TSn).
- 11.** Method according to claim 10, **characterized in** that  
said video and/or audio data are received in compressed or compactified  
format, in particular in the MPEG-2 format or the like.
- 30 **12.** Method according to ~~any of the preceding claims~~ <sup>Claim 1</sup>, **characterized in** that  
the received transport streams (TS1, TS2, ..., TSn) of said data (D1,  
D2, ..., Dn) are stored as said series of partial transport streams (ptlTS1,  
ptlTS2, ...) to a physical storage media device, such as a magnetic tape device,  
35 optical, magnetic, magneto-optical disc devices or the like.

1 **13.** Method according to ~~any of the preceding claims~~, <sup>Claim 1</sup> **characterized in** that  
if - during receiving a given number of transport streams (TS1, TS2, ..., TSn) - recording of a further transport stream (TSa) is requested, it is checked  
5 whether the bandwidth of the method or of the storage media device respectively allows the further requested transport stream (TSa) to be recorded, and  
the request of recording the further transport stream (TSa) is rejected in the case of an insufficient band width.

whereas in the case of a sufficient band width the further transport stream (TSa) is incorporated into the series of the former transport streams  
10 (TS1, TS2, ..., TSn) at a position according to its temporal relationship with respect to the former transport streams and/or the respective isochronous channel of the bus system.

15 **14.** Method according to ~~any of the preceding claims~~, <sup>Claim 1</sup> **characterized in** that  
in the case of terminating a request for recording a distinct transport stream (TSd) and/or terminating the corresponding distinct transport stream (TSd) itself processing and recording of the residual transport streams is continued with the position of the information content of the terminated transport stream (TSd) being filled with blank information.

20 **15.** Method according to ~~any of the preceding claims~~, <sup>Claim 1</sup> **characterized in** that  
a waiting mode is provided which is entered in the case that the recording requests of all transport streams (TS1, TS2, ..., TSn) and/or the transport streams (TS1, TS2, ..., TSn) itself are terminated.

25 **16.** Method according to claim 15, **characterized in** that  
a playback mode is provided for playing back transport streams (TS1, TS2, ..., TSn) previously recorded, and,  
30 said playback mode can be entered only from said waiting mode.

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